

## Claims

1. A composition for a heat-resistant label comprising a silicone resin (A), at least one member selected from the group consisting of a polymetalloccarbosilane resin, zinc powder, tin powder and aluminum powder (B), and a solvent (C).

2. A composition for a heat-resistant label according to claim 1 comprising a silicone resin (A), a polymetalloccarbosilane resin (B-1), and a solvent (C).

3. A composition for a heat-resistant label according to claim 1 or 2, wherein the weight ratio of the silicone resin (A) : the polymetalloccarbosilane resin (B-1) is about 1:9 to about 9:1.

4. A composition for a heat-resistant label according to any one of claims 1 to 3, wherein the weight ratio of the silicone resin (A) : the polymetalloccarbosilane resin (B-1) is about 7:3 to about 2:8.

5. A composition for a heat-resistant label according to any one of claims 1 to 4, wherein the silicone resin (A) has a weight-average molecular weight of about 1000 to about 5000000.

6. A composition for a heat-resistant label according to any one of claims 1 to 5 further comprising an inorganic filler (D).

7. A composition for a heat-resistant label according to claim 1 comprising a silicone resin (A), at least one high-temperature-adhering inorganic powder selected from the group consisting of zinc powder, tin powder, and aluminum powder (B-2), and a solvent (C).

8. A composition for a heat-resistant label according to claim 1 or 7, wherein the weight ratio of the silicone resin (A) : the at

least one high-temperature-adhering inorganic powder selected from the group consisting of zinc powder, tin powder and aluminum powder (B-2) is about 1:5 to about 10:1.

5           9. A composition for a heat-resistant label according to claim 1 comprising a silicone resin (A), a polymetallo carbosilane resin (B-1), at least one high-temperature-adhering inorganic powder selected from the group consisting of zinc powder, tin powder, and aluminum powder (B-2), and a solvent (C).

10           10. A composition for a heat-resistant label according to any one of claims 1 to 6, and 9, wherein the polymetallo carbosilane resin (B-1) is at least one member selected from the group consisting of polytitanocarbosilane resins and polyzirconocarbosilane resins.

15           11. A composition for a heat-resistant label according to any one of claims 1 to 6, 9, and 10, wherein the polymetallo carbosilane resin (B-1) has a weight-average molecular weight of about 500 to about 10000.

20           12. A heat-resistant label having a sticking layer on a sticking side of a support,  
the sticking layer comprising a hardened coating film comprising a silicone resin (A) and at least one member selected from  
25 the group consisting of a polymetallo carbosilane resin, zinc powder, tin powder, and aluminum powder (B).

30           13. A heat-resistant label according to claim 12, wherein the hardened coating film is obtained by applying to the support a composition of any one of claims 1 to 11 and evaporating off the solvent contained in the composition.

35           14. A heat-resistant label according to claim 12, wherein the hardened coating film comprises a silicone resin (A) and a polymetallo carbosilane resin (B-1).

15. A heat-resistant label according to claim 12, wherein the hardened coating film comprises a silicone resin (A) and at least one high-temperature-adhering inorganic powder selected from the group consisting of zinc powder, tin powder, and aluminum powder (B-2).

16. A heat-resistant label according to claim 12, wherein the hardened coating film comprises a silicone resin (A), a polymetallocarbosilane resin (B-1), and at least one high-temperature-adhering inorganic powder selected from the group consisting of zinc powder, tin powder, and aluminum powder (B-2).

17. A heat-resistant label according to any one of claims 12 to 16, wherein the sticking layer has a thickness of about 5 $\mu$ m to about 100  $\mu$ m.

18. A heat-resistant label according to any one of claims 12 to 17, wherein the support has a thickness of about 5 $\mu$ m to about 100  $\mu$ m.

19. A heat-resistant label according to any one of claims 12 to 18, wherein the support is an aluminum foil, stainless steel foil, or copper foil.

20. A heat-resistant label according to any one of claims 12 to 19 having a heat-resistant label base layer on a display side of the support.

21. A heat-resistant label according to claim 20, wherein the label base layer is a cured coating film comprising a silicone resin (A) and a polymetallocarbosilane resin (B-1).

22. A heat-resistant label according to claim 20 or 21, wherein the label base layer is a cured coating film obtained by applying to the support a composition of any one of claims 2 to 6 and heating

the composition.

23. A heat-resistant label according to any one of claims 20 to 22, wherein the label base layer has a thickness of about 0.5  $\mu\text{m}$  to about 100  $\mu\text{m}$ .

24. A heat-resistant label according to any one of claims 20 to 23 having an identification part on the label base layer.

25. An article to which a heat-resistant label of any one of claims 12 to 24 is attached through a cured sticking layer.

26. A method for producing a heat-resistant label, the method comprising the steps of:

applying a composition of any one of claims 1 to 11 to a sticking side of a support; and

drying the applied composition to form a hardened coating film.

27. A production method according to claim 26, wherein the applied composition is dried at about 50°C to about 240°C.

28. A production method according to claim 26 or 27, comprising, prior to the step of applying a composition of any one of claims 1 to 11 to a sticking side of a support, the steps of:

applying a composition for a heat-resistant label base layer to a display side of a support; and

drying the applied composition to form a cured coating film.

29. A production method according to claim 28, wherein the composition for a label base layer is a composition of any one of claims 2 to 6.

30. A method for producing an article with a heat-resistant label attached,

the method comprising the step of attaching a heat-resistant

label of any one of claims 12 to 24 to an article at about 300°C to about 670°C.

5 31. A heat-resistant label comprising a support and a metal foil layer comprising at least one member selected from the group consisting of an aluminum foil, aluminum-alloy foil, tin foil, and tin-alloy foil,

the metal foil layer being laminated on a sticking side of the support.

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32. A heat-resistant label according to claim 31, wherein the metal foil layer is laminated on the support through an adhering layer.

15 33. A heat-resistant label according to claim 31 or 32, wherein the metal foil layer has a thickness of 5  $\mu\text{m}$  to 100  $\mu\text{m}$ .

34. A heat-resistant label according to any one of claims 31 to 33, wherein the support is a stainless steel foil, copper foil, or iron foil.

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35. A heat-resistant label according to any one of claims 31 to 34, comprising a heat-resistant label base layer on a display side of the support.

25 36. A heat-resistant label according to claim 35, wherein the label base layer has a thickness of about 0.5  $\mu\text{m}$  to about 100  $\mu\text{m}$ .

30 37. A heat-resistant label according to claim 35 or 36, wherein the label base layer is a cured coating film obtained by crosslinking the resins of a composition of any one of claims 2 to 6.

38. A heat-resistant label according to any one of claims 35 to 37 comprising an identification part on the label base layer.

35 39. An article to which a heat-resistant label of any one of

claims 31 to 37 is attached.

40. A method for producing an article with a heat-resistant label attached,

5       the method comprising the step of attaching a heat-resistant label of any one of claims 31 to 39 to an article at about 670°C to about 1100°C.